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METALS PRODUCER

STEEL'S LEAPFROG TECHNOLOGIES LOOKING FOR A PRINCE

ANNUAL STEEL/NONFERROUS FINANCIAL ANALYSIS
THE WINNERS AND LOSERS
WORLD'S TOP 50 STEEL PRODUCERS
U.S. STEEL'S A TEAM

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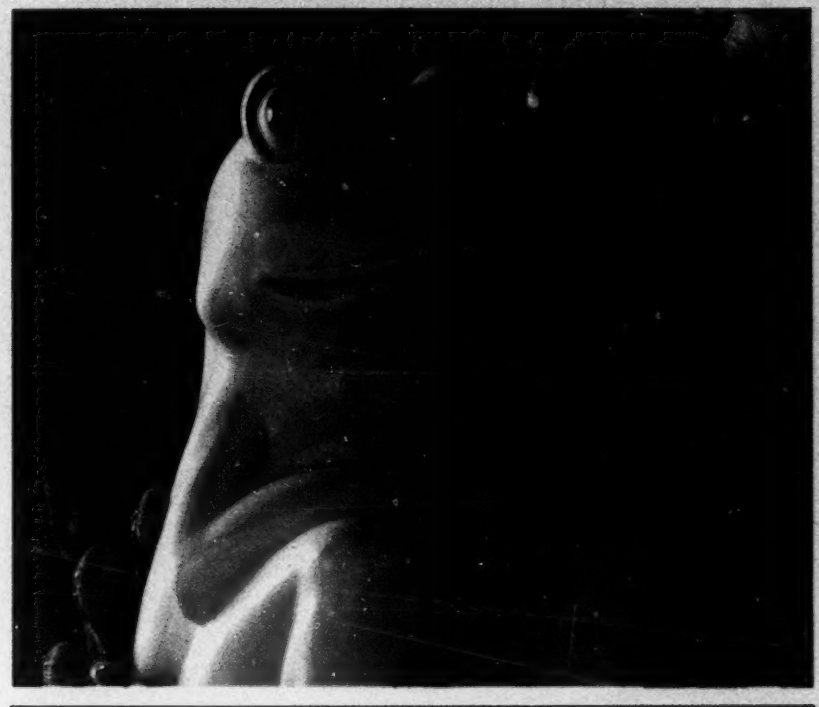

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IRON AGE'S

1985 TOP 50 WORLD STEEL PRODUCERS

In a stagnant market, producers worldwide are modernizing, reducing their work forces, and improving utilization rates.

BY JAMES B. POND

World crude steel production is up again.

Could better days be ahead?

No, not yet.

In the countries that report production figures to the International Iron and Steel Institute (IISI), crude steel production in 1985 rose only 1.4 pct over 1984, to 720 million metric tons.

To put things in perspective, last year's production of raw steel was 3.6 pct below the previous peak of 746.5 million metric tons posted in 1979, and 11.6 pct above the 1982 trough, at 645.2 million metric tons.

According to the IISI, U.S. production fell 4.2 pct, on an annual basis, compared with 1984. Japanese production was off 0.3 pct; the European Community rose 0.3 pct; while those in other areas, not including production figures from the East Bloc nations or China, rose 4.9 pct.

Outside the the Western World, results were mixed during 1985. The Soviet Union and other Eastern Europe COMECON members increased production 0.5 pct, to 1.2 million metric tons. The Peoples Republic of China and Democratic Peoples Republic of Korea (N. Korea), showed a 10.0 pct gain compared to 1984, and a 37.3 pct gain compared with 1979, the IISI reported.

While many see world steel production as being limited by stagnating demand, others view the period as an opportunity for stabilization. In either case, some tough decisions were made at the end of 1984 by the management of steel producing firms and their governments. Overcapacity continued to be a millstone.

Iron Age's annual survey of the TOP 50 World Steel Producers revealed some interesting changes taking place within the industry worldwide. In the Top 10 of the TOP 50 producers in 1985, Japanese and European firms were mentioned three times each and U.S. firms twice.

Utilization Rate

In 1985, managers focused on increasing their firm's utilization rate. For the second year in a row two firms, China Steel Corp. (Taiwan) and South Korea's Pohang Iron & Steel Co., Ltd. (Posco) exceeded capacity and ran flat out all year. In 1984, Posco, with its greater capacity, was the leader but for 1985 China Steel showed the best utilization rate of the TOP 50, with an amazing 103 pct utilization rate.

The Top 10 producers listed in this category reported rates of 90 pct or better. Of the ten, half were also in this Top 10 listing for 1984. In addition to China Steel and Posco, Siderbrás moved from ninth to fourth position; Svenskt Stål (SSAB), from sixth to fifth; and Broken Hill Proprietary (BHP) fell from seventh position to ninth in 1985. Only National Steel Corp. of the U.S. firms reported a utilization rate of 90 pct or better. In 1984, no U.S. producers made this group.

Based on the rate of improvement during the year (Top 10 Steel Producers That Improved Production in 1985 based on straight improvement in raw steel production), three of the top 10 producers were from the U.S. in 1984 and in 1985. Japan joined this group in 1985.

Unfortunately, with the exception of LTV Steel with its 31.2 pct gain, the group as a whole fared less favorably than did the group in 1984 versus 1983. Most gains were under 16 pct, denoting a downturn in the steel markets worldwide. Another interesting sidelight, only two firms were on the comparable 1984 listing. This indicated that there are a lot of steel producers worldwide that are trying to improve their productivity as well as production.

What Is A Fair Measure?

Who are the Top 10 of the TOP 50 based on tons produced per employee? Admittedly, this is not the truest measure nor the fairest of efficiency. It would be best to compare output on a cost-per-ton basis but this comparison would be equally nebulous due to changing exchange rates and widely varying accounting procedures.

In order to achieve more uniformity in answering the question, "How Many Employees Do You Have (engaged in steelmaking operations)?" we included a copy of the 1984 results of the TOP 50 World Steel Producers as reported by *Iron Age*. With this in mind, there is validity in comparing tons produced per employee as a measure of efficiency. Look at the winners. Once again, Tokyo Steel won top spot, with 1,485 tons per employee.

Much to the surprise of many, U.S. producers showed some remarkable gains during 1985. Nucor Corp., which moved from third to second, reported 981 tons per employee, and North Star Steel Co.,

(The table listing the TOP 50 steel producers begins on P. 48B3; the story continues on p. 48B7.)

World's Top 50 Steel Producers in 1985

1985 Rank	(1984 Rank)	Company (Country)	Year	Crude Steel Production (metric tons)	Maximum Capability (metric tons)	Exports As % of Shipments	No. of Employees (Steelmaking)	Tons per Employee	Capital Expenditures 1986 Foracast 1985 Actual (Millions)
1	(1)	Nippon Steel (Japan)	1985 1984	26,561,000 29,420,000	49,559,000 52,973,000	34.0 34.0	63,000 64,000	453 460	Yen 150K F1 Yen 175K F1
2	(2)	U. S. Steel (U.S.A.)	1985 1984	15,144,000 13,680,000	23,800,000 23,800,000	1.0 1.0	31,597 44,559	479 307	N.A. $1,184
3	(3)	Finsider (Italy)	1985 1984	13,453,689 13,517,476	21,445,000 21,445,000	32.4 31.3	76,218 81,608	177 166	L 956.2K L 858.8K
4	(7)	SIDERBRÁS[1] (Brazil)	1985 1984	13,230,700 11,389,000	13,300,000 12,577,000	39.2 35.3	47,794[2] 46,403[3]	277 245	$1,882 $1,381
5	(4)	British Steel (England)	1985 1984	13,000,000 13,400,000	21,400,000 21,400,000	28.4 27.9	60,930 65,450	213 205	£176 F1 £182 F1
6	(16)	SACILOR (France)	1985 1984	12,319,000 12,485,000	16,870,000 19,090,000	49.5 50.0	64,000 73,700	193 169	FF 2.3 FF 2.8
7	(80	Sumitomo Metals (Japan)	1985 1984	12,122,840 11,302,602	21,512,000 21,512,000	39.7 40.0	27,337 27,748	444 407	Yen 100K F1 Yen 90K F1
8	(5)	NKK(Nippon Kokan) (Japan)	1985 1984	12,100,000 12,500,000	21,000,000 21,000,000	N.A. 33.6	21,500 21,900	563 571	Yen 116K Yen 116K
9	(13)	LTV (U.S.A.)	1985 1984	11,900,000 9,070,000	19,900,000 23,400,000	N.A. N.A.	29,802 35,352	399 257	N.A. N.A.
10	(6)	Thyssen Stahl (W. Germany)	1985 1984	11,065,000 10,848,000	11,800,000 13,900,000	40 39	35,404 36,706	313 296	DM740K DM668K
11	(9)	Kawasaki Steel (Japan)	1985 1984	10,856,000 11,283,000	20,780,000 20,780,000	34.1 36.0	25,713 26,976	422 418	Yen 90K F1 Yen 93K F1
12	(10)	Bethlehem Steel (U.S.A.)	1985 1984	9,471,049 11,037,176	15,975,528 16,329,330	1.0 1.0	28,776 33,927	329 325	$290 $322.2
13	(12)	POSCO (S. Korea)	1985 1984	9,260,000 9,194,552	N.A. 9,100,000	N.A. 30.0	N.A. 14,957	N.A. 615	N.A. $699
14	(11)	USINOR (France)	1985 1984	7,000,000 9,400,000	8,000,000 13,000,000	49.0 42.0	23,000 40,000	304 325	F 200 F 800
15	(15)	SAIL (India)	1985 1984	6,815,000 6,300,000	9,400,000 9,400,000	0.3 3.0	148,631 144,844	46 44	Rupees 472.2 Rupees 570.4
16	(19)	ISCOR (S. Africa)	1985 1984	6,810,300 5,770,300	7,300,000 7,300,000	N.A. 34.0	N.A. 39,700	N.A. 145	N.A. F3 R170 F3
17	(14)	Kobe Steel (Japan)	1985 1984	6,465,000 6,618,000	8,775,000 8,814,000	30.0 31.0	12,445 12,711	520 521	Yen 62K F1 Yen 43K F1
18	(17)	Broken Hill Pty (Australia)	1985 1984	6,322,644 6,110,613	6,800,000 6,800,000	24.9 20.1	28,962 30,399	218 201	A$407 F4 A$155 F4
19	(18)	Inland Steel (U.S.A.)	1985 1984	6,069,000 6,479,000	9,300,000 9,300,000	0 0	24,413 26,921	249 241	$25 $21.7
20	(21)	Hoogovens Groep (Netherlands	1985 1984	5,302,000 5,532,000	7,200,000 7,200,000	70.8 69.8	17,687 17,607	300 314	DFL788 DFL835
21	(20)	Armco (U.S.A.)	1985 1984	5,000,000 5,600,000	7,000,000 8,000,000	1.0 1.0	17,800 19,400	281 289	$80 $68
22	(27)	Klöckner-Werke (W. Germany)	1985 1984	4,593,000 4,270,000	N.A. N.A.	N.A. N.A.	20,647 20,280	222 211	N.A. F2 N.A. F2
23	(24)	STELCO (Canada)	1985 1984	4,527,832 4,667,783	7,294,050 7,259,550	20.6 22.1	18,773 20,612	241 227	N.A. C$132.1
24	(28)	ENSIDESA (Spain)	1985 1984	4,481,905 4,108,600	4,700,000 4,700,000	41.0 35.0	19,765 21,012	227 196	Pts 59,130 Pts 25,029
25	(22)	Cockerill Sambre (Belgium)	1985 1984	4,451,000 4,835,000	6,600,000 7,500,000	67.0 66.0[4]	17,008 19,334	262 250	N.A. N.A.
26	(32)	Mannesmann[5] (W. Germany)	1985 1984	4,413,000 3,968,000	N.A. N.A.	N.A. N.A.	N.A. N.A.	N.A. N.A.	N.A. N.A.
27	(31)	DOFASCO (Canada)	1985 1984	4,372,700 4,468,000	N.A. N.A.	N.A. N.A.	12,000 11,700	364 382	C$N.A. C$195[6]
28	(23)	National Steel (U.S.A.)	1985 1984	4,341,300 4,365,500	4,822,700 4,822,700	0 0	12,500 12,500	347 349	$251 $262
29	(30)	Voest-Alpine (Austria)	1985 1984	4,267,887 4,444,651	N.A. N.A.	64.0 65.0	15,800 16,200	270 274	öS 1,500 öS 1,700

World's Top 50 Steel Producers in 1985

1985 Rank	(1984 Rank)	Company (Country)	Year	Crude Steel Production (metric tons)	Maximum Capability (metric tons)	Exports As % of Shipments	No. of Employees (Steelmaking)	Tons per Employee	Capital Expenditures 1986 Forecast 1985 Actual (Millions)
30	(25)	Krupp Stahl (W. Germany)	1985	4,202,000	N.A.	30.0	21,545	195	N.A.
			1984	4,395,000	N.A.	30.0	22,362	197	N.A.
31	(26)	Sidermex (Mexico)	1985	4,160,000	N.A.	N.A.	N.A.	N.A.	N.A.
			1984	4,317,000	5,690,000	16.0	39,087	111	$109K
32	(29)	Hoesch Stahl (W. Germany)	1985	4,139,000	4,889,000	28.9	17,600	235	DM215
			1984	4,109,000	4,889,000	29.5	17,800	231	DM712
33	(33)	Arbed S.A. (Luxembourg)	1985	3,945,275	4,600,000	96.0	12,830	308	FLux 2,573
			1984	3,987,440	4,600,000	96.0	12,690	314	FLux 2,527
34	(34)	Peine-Salzgitter (W. Germany)	1985	3,816,000	5,250,000	N.A.	10,955	348	N.A.
			1984	3,628,000	5,250,000	N.A.	11,829	307	N.A.
35	(36)	China Steel (Taiwan)	1985	3,346,878	3,250,000	28.0	7,495	447	NT$ 19,399
			1984	3,340,572	3,250,000	27.9	7,486	446	NT$ 6,295
36	(37)	Nisshin Steel (Japan)	1985	3,291,000	5,473,000	20.3	8,716	378	Y 31,300K F1
			1984	2,965,000	5,473,000	24.3	8,762	338	Yen 30,500K F1
37	(35)	Sidmar N.V. (Belgium)	1985	3,128,178	3,500,000	94.0	6,627	472	BF 6K
			1984	3,355,815	3,500,000	91.0	6,411	523	BF 5.6K
38	(40)	Svenskt Stål (Sweden)	1985	3,010,000	3,100,000	45.0	11,230	268	SEK570
			1984	2,851,000	3,100,000	41.0	11,500	248	SEK550
39	(39)	Tokyo Steel (Japan)	1985	2,784,854	3,720,000	31.0	1,875	1,485	Yen 3,000
			1984	2,896,179	3,720,000	24.0	1,974	1,467	Yen 4,300
40	(42)	SIDOR (Venezuela)	1985	2,737,000	4,800,000	46.0	16,751	163	B 1,156
			1984	2,511,000	4,800,000	32.0	15,566	161	B 233
41	(43)	Arbed Saarstahl (W. Germany)	1985	2,679,000	3,700,000	35.0	13,254	202	DM 120
			1984	2,462,000	3,700,000	40.0	14,427	171	DM 72
42	(38)	COSIPA (Brazil)	1985	2,640,186	3,160,000	27.0	14,500	182	$272
			1984	2,915,634	3,160,000	37.0	14,389	203	$125
43	(44)	Weirton Steel (U.S.A.)	1985	2,489,427	3,876,000	0.8	7,865	317	$98.5
			1984	2,535,916	3,876,000	0.6	7,699	329	$47.5
44	(45)	Algoma Steel (Canada)	1985	2,488,000	N.A.	N.A.	10,000	249	N.A.
			1984	2,294,000	N.A.	N.A.	9,000	255	C$143.2
45	(46)	Tata Iron & Steel (India)	1985	2,053,000	2,160,000	N.A.	29,200	70	Rs. 2,730 F1
			1984	2,060,000	2,160,000	N.A.	29,400	70	Rs. 1,310
46	(48)	Nucor Corp. (U.S.A.)	1985	1,717,000	2,100,000	>1.0	1,750	981	$60
			1984	1,565,000	2,100,000	>1.0	1,780	879	$29
47	(49)	Daido Steel (Japan)	1985	1,623,000	1,923,000	12.2	5,500	295	Yen 150,000 F3
			1984	1,683,000	1,871,000	12.7	5,600	301	Yen 175,000 F3
48	(47)	Rautaruukki Oy (Finland)	1985	1,608,000	1,900,000	48.0	4,393	366	FMK 900
			1984	1,773,000	1,900,000	46.0	4,478	396	FMK 695
49	(41)	Wheeling-Pittsburgh (U.S.A.)	1985	1,600,600	4,000,000	0.01	8,200	195	N.A.
			1984	2,550,000	4,000,000	0.01	10,700	238	N.A.
50	(N)	North Star Steel (U.S.A.)	1985	1,454,791	2,160,000	<1.0	1,554	936	N.A.
			1984	1,730,970	1,800,000	<1.0	1,708	1,013	N.A.

FOOTNOTES

(N) New listing
K Thousand (Thousand million = Billion)
F1 Fiscal Year April 1—March 31
F2 Fiscal Year October 1—September 30
F3 Fiscal Year July 1—June 30
F4 June 1—May 31
[1] Sidebrás System, including USIMINAS and CSN
[2] Includes ACOMINAS
[3] Excludes ACOMINAS
[4] Exported 52 pct to EEC and 22 pct to others
[5] Production primarily for internal use
[6] Current program extends to late '80s

Company Names Behind The Acronyms

COSIPA — Companhia Siderúrgica Paulista
DOFASCO — Dominion Foundries & Steel Ltd.
ENSIDESA — Empresa Nacional Siderúrgica, S.A.
ISCOR — S. African Iron & Steel Industrial Corp., Ltd.
POSCO — Pohang Iron and Steel Company Ltd
SACILOR — Aciéries et Laminoirs de Lorraine
SAIL — Steel Authority of India, Ltd.
SIDERBRÁS — Siderurgia Brasileira S.A.
SIDOR — C.V.G. Siderurgica del Orinoco C.A.
STELCO — The Steel Company of Canada, Ltd.
USINOR — Union Sidérurgique du Nord et de l'Est de la France

which was not listed last year and ranked 50th in 1985, took over the third position with 936 tons per employee. Posco, of S. Korea, held fourth ranking both years, with an estimated 615 tons per employee.

Of the Top 10 firms in this category, all but three were included in the 1984 listings.

A Disappointing Performance

The "Best Productivity Improvement in 1985 Compared with 1984 (based on tons of raw steel produced per employee)," shows that only two of the ten, U.S. Steel Corp. and Nisshin Steel Co., Ltd., were in the 1984 rankings. This shows persistence. But, the 1984 rankings included seven firms that improved productivity by more than 17 pct. In 1985, only three of the Top 10 firms ranked did better than 17 pct. Seven did not do anything extraordinary. Only two, U.S. Steel and LTV, reported big gains.

The relative low scores in this category reflects upon the industry as a whole worldwide. Many steel producers did better, but not significantly better, than they did in the previous year.

The real plight of the steel producers worldwide is revealed in the category, "The Least Fortunate Producers (based on lowest utilization rate)." This listing shows ten firms that experienced a utilization rate of 60 pct and worse. Eight of these producers were on this list for the second year in a row. Mind you, these are world leaders—the best in the industry. Obviously the problem is one of overcapacity, the result of dynamic optimism years ago and from faulty forecasts on the part of industry specialists who predicted a world demand for steel that never materialized.

The poor showing of Wheeling-Pittsburgh Steel Corp. reflects the damaging effects of a 90 day strike.

In this category, how did the various steel producing areas fare? Of the ten, five were Japanese producers, three were U.S., one is European, and one is South American.

Is anyone doing anything about the plight of the steel industry

The Most Fortunate Producers Based on Highest Utilization Rate

1985 Ranking	TOP 50 Ranking	Company	Capacity	Production	Rate
1	(35)	China Steel	3.3	3.2	103.0
2	(13)	POSCO	9.3	9.1	101.8
3	(3)	Finsider	13.4	13.5	99.5
4	(4)	Siderbrás	13.2	13.3	99.5
5	(38)	SSAB	3.0	3.1	97.1
6	(24)	ENSIDESA	4.5	4.7	95.4
7	(45)	Tata Iron & Steel	2.0	2.2	95.0
8	(10)	Thyssen Stahl	11.1	11.8	93.8
9	(18)	BHP	6.1	6.6	92.6
10	(28)	National Steel	4.3	4.8	90.0

Steel Producers That Improved Production in 1985

Based on raw steel production by tonnage

1985 Ranking	TOP 50 Ranking	Company	1984-1985 (million tons)	Pct Change
1	(9)	LTV	9.1 —11.9	31.2
2	(16)	ISCOR	5.8 — 6.8	18.0
3	(4)	Siderbrás	11.4 —13.2	16.0
4	(36)	Nisshin Steel	3.0 — 3.3	11.0
5	(2)	U.S. Steel	13.7 —15.1	10.7
6	(26)	Mannesmann	4.0 — 4.4	10.6
7	(46)	Nucor Steel	1.6 — 1.7	9.7
8	(24)	ENSIDESA	4.1 — 4.5	9.1
9	(40)	SIDOR	2.5 — 2.7	9.0
10	(44)	Algoma Steel	2.3 — 2.5	8.5

1985 Top Ten Producers

Based on Tons Produced Per Employee

1985 Ranking	TOP 50 Ranking	Company	1984	1985
1	(39)	Tokyo Steel	1,467	1,485
2	(46)	Nucor Corp.	879	981
3	(50)	North Star Steel	1,013	936
4	(13)	POSCO	615	615
5	(8)	NKK	571	563
6	(17)	Kobe Steel	571	520
7	(2)	U.S. Steel	307	479
8	(37)	Sidmar N.V.	523	472
9	(1)	Nippon Steel	460	453
10	(35)	China Steel	446	447

Best Productivity Improvement 1985 Versus 1984 (Tons/Employee)

1985 Ranking	TOP 50 Ranking	Company	Tons/Employee 1984—1985	Pct
1	(2)	U.S. Steel	307 — 479	56.1
2	(9)	LTV	257 — 399	55.6
3	(41)	Arbed Saarstahl	171 — 202	18.5
4	(6)	SACILOR	169 — 193	13.6
5	(34)	Peine-Salzgitter	307 — 348	13.6
6	(4)	Siderbrás	245 — 277	12.9
7	(46)	Nucor Corp	879 — 981	11.6
8	(36)	Nisshin Steel	338 — 378	11.6
9	(7)	Sumitomo	407 — 444	8.9
10	(38)	Svenskt Stål	248 — 268	8.1

The Least Fortunate Producers Based on Lowest Utilization Rate

1985 Ranking	TOP 50 Ranking	Company	Capacity	Production	Rate
1	(49)	Wheeling-Pittsburgh	1.6	4.0	40.0
2	(11)	Kawasaki	10.9	20.8	52.2
3	(7)	Sumitomo Metals	12.1	21.5	56.4
4	(40)	SIDOR	2.7	4.8	57.0
5	(1)	Nippon Steel	28.6	49.6	57.6
6	(8)	NKK	12.1	21.0	57.6
7	(12)	Bethlehem	9.5	16.0	59.3
8	(9)	LTV	11.9	19.9	59.8
9	(36)	Nisshin Steel	3.3	5.5	60.1
10	(5)	British Steel	13.0	21.4	60.7

Firms That Shrank in 1985 By Decreasing Employment

1985 Ranking	TOP 50 Ranking	Company	1984—1985	Pct Change
1	(2)	U.S. Steel	44,559—31,597	29.1
2	(49)	Wheeling-Pittsburgh	10,700— 8,200	23.4
3	(9)	LTV	35,352—29,802	15.9
4	(6)	SACILOR	73,700—64,000	13.2
5	(25)	Cockerill Sambre	19,334—17,008	12.0
6	(19)	Inland Steel	26,921—24,413	9.3
7	(50)	North Star	1,708— 1,554	9.0
8	(23)	STELCO	20,612—18,773	8.9
9	(21)	Armco	19,400—17,800	8.2
10	(41)	Arbed Saarstahl	14,427—13,254	8.1

worldwide? In one category, at least, the answer is "Yes!" That category is "Firms That Shrank In 1985 By Decreasing Employment." Whether for increased efficiency or a reduction in capacity, the rankings show that of the ten producers, only three were listed in 1984 and 1985. Six firms were U.S., three were European, and one Canadian firm. Worth noting, U.S. producers reported the largest reduction in work force.

Exports, A Key To Profits

If one goes by the admonition that everyone should export, then "Exports As A Pct of Shipments" takes on some interesting interpretations. Why don't U.S. producers try to increase exports? Why did they not place more emphasis on exports following World War II?

They did not and less-developed nations, which did not have the funds to buy steel but could borrow to build steel plants, made export of U.S.-produced steel unnecessary.

Analysis of the listings indicates that seven of the TOP 50 steel producers, all European, now export more than half of their output. Two of these firms, Arbed S.A. and Sidmar N.V., export 96 pct and 94 pct respectively.

While there were some increases and decreases in exports-as-a-pct-of-shipments among those who export significant amounts, in general the status quo prevailed and changes were relatively small.

However, among those producers that experienced significant changes in export ratios, four reported declines and seven reported increases during 1985 over 1984.

Despite press reports to the contrary, U.S. steel producers seem to be taking advantage of protectionism sanctioned by the U.S. government. They are modernizing and retrenching to strengthen their positions. Positive results are evident in the *Iron Age* annual survey.

Japanese producers may be the most vulnerable to changing market conditions and competition. They have a tremendous amount of unused capacity amid a shrinking demand for steel. □